

# PATENT SPECIFICATION

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 (72) Inventors ROBERT HERITAGE  
 STEPHEN MARK HALL



## (54) SPOTLIGHT FITTING

(71) We, ROTAFLEX (GREAT BRITAIN) LIMITED, a British Company, of 241 City Road, London, EC1P 1ET, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to universal spotlight fittings and in particular to a spotlight fitting comprising a mounting part and a lampholder part which are connected together in a manner permitting relative rotation therebetween. The mounting part is normally fixed to a mounting surface such as a wall or ceiling, or to a continuous outlet electrical supply track, by a swivel fitting permitting rotation of the mounting part about a fixed axis, for example a vertical axis, and the lampholder part is mounted for rotation about a transverse axis which may, for example, be horizontal.

Various constructions have been employed to achieve this "universal" mounting of the lampholder part. For example, the mounting part may comprise a U-shaped stirrup whose cross-piece is mounted for swivelling movement about a vertical axis and whose arms are pivotally connected to the lampholder part on a horizontal axis. It has also been proposed to interconnect the two parts through the intermediary of a connecting portion defining pivotal axes at 45° to each other.

In accordance with the present invention there is provided a spotlight fitting comprising a mounting part and a lampholder part, the two parts having respective main axes and the same elliptical cross-sections in planes normal to their main axes, the lampholder part being pivotally connected end-to-end with the mounting part for rotation relative thereto about an axis to the said main axes, and the profile of the parts at

their confronting end faces being right circular and centred on said axis of rotation.

In such a universal spotlight the mechanical connection between the mounting and lampholder parts is achieved in a particularly neat manner, since the adjoining end portions of the two parts are correctly matched in all relative positions of adjustment of the parts.

In a preferred form, the plane is inclined at 45° to the main axes, whereby the lampholder can be pivoted from a first position in which the main axes are coincident, to a second position in which the main axes of the two parts are perpendicular to each other.

The presently preferred form of spotlight fitting in accordance with the invention will now be described in detail, by way of example, with reference to the accompanying drawings, in which:

Figure 1 is a side elevation of the spotlight fitting;

Figure 2 is a rear view of the fitting; and Figure 3 is an end view.

The fitting shown in the drawing comprises a mounting part 1 and a lampholder part 2, both of the same elliptical cross-section. The mounting part 1 has a swivel mounting bush 3 by which the fitting is secured to a mounting surface in a manner allowing rotation of the fitting about the axis A1 shown in Figure 1. The bush 3 is hollow and serves as a flex entry for conventional flex conductors 4.

The lampholder part 2 has a transverse wall portion 5 supporting a lampholder 6 to take a lamp L.

The two parts 1 and 2 have mutually confronting end faces at 45° to the axis A1 and are connected together by a swivel joint 7 which is hollow to permit passage of the conductors 4 to the lampholder 6. The joint 7 permits relative rotation of the two parts about the axis A2, which is

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normal to the confronting end faces and is  $45^\circ$  to the axis A1.

The elliptical cross-section of the parts 1 and 2 is so chosen that the profiles of the 5 confronting end faces (and thus of the parts) is right circular as viewed along the pivotal axis A2. Thus, for all relative positions of rotation of the parts 1 and 2, their profiles blend perfectly. It will be appreciated that 10 rotation of the part 2 about axis A2 through  $180^\circ$  from the position shown in Figure 1 will have the effect of positioning the main axis of the lampholder part at  $90^\circ$  to the axis A1. Relative rotation may be limited 15 to  $180^\circ$  or  $360^\circ$  in order to prevent the conductors 4 becoming unduly twisted. The whole fitting can be turned through  $360^\circ$  about axis A1 and the two degrees of rotation continue to permit a full hemi- 20 spherical size adjustment.

In the illustrated example, the mounting part 1 is made very compact, but of course could have much greater length, measured along its main axis A1.

25 The joint between the two parts could be finished in a variety of ways. A small gap could be left, or a flush, face-to-face joint, and for outdoor use an O-ring or other annular seal could be provided against 30 the ingress of moisture.

#### WHAT WE CLAIM IS:—

1. A spotlight fitting comprising a mounting part and a lampholder part, the two parts having respective main axes and 35 the same elliptical cross-section in planes normal to their main axes, the lampholder part being connected end-to-end with the mounting part for rotation relative thereto about an axis inclined with respect to said 40 main axes, and the profiles of the parts at their confronting end faces being right circular and centred on said axis of rotation.

2. A spotlight fitting according to claim 1, wherein the lampholder part is rotatable

relative to the mounting part from a position in which the main axes are coincident to a position in which the main axes are perpendicular to each other.

3. A spotlight fitting according to claim 2, wherein the said axis of rotation is inclined to the main axes of the mounting and lampholder parts at an angle of  $45^\circ$ .

4. A spotlight fitting according to any one of claims 1 to 3, wherein rotation of the lampholder part relative to the mounting 55 part is limited to an angle not greater than  $360^\circ$ .

5. A spotlight fitting according to any one of claims 1 to 4, wherein the lampholder part is connected to the mounting 60 part by a pivot member coaxial with the axis of rotation.

6. A spotlight fitting according to claim 5, wherein the pivot member is hollow and electrical conductors for supplying electric 65 current to the lampholder part pass through the pivot member.

7. A spotlight fitting according to any one of claims 1 to 6, wherein the confronting faces of the mounting and lampholder 70 parts are substantially in face-to-face contact with each other.

8. A spotlight fitting according to claim 7, wherein an annular seal is fitted between said confronting faces. 75

9. A spotlight fitting according to any one of claims 1 to 8, wherein the mounting part has a swivel mounting which permits rotation of said part about the main axis thereof. 80

10. A spotlight fitting substantially as herein described with reference to the accompanying drawing.

A.A. THORNTON & CO.  
Chartered Patent Agents  
Northumberland House  
303/305 High Holborn  
London, WC1V 7LE

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COMPLETE SPECIFICATION

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This drawing is a reproduction of  
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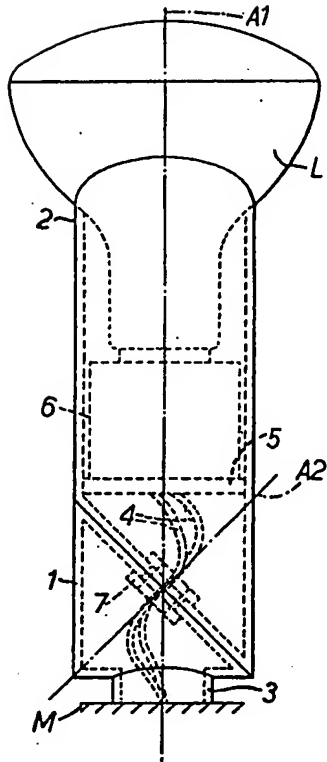


FIG. 1.

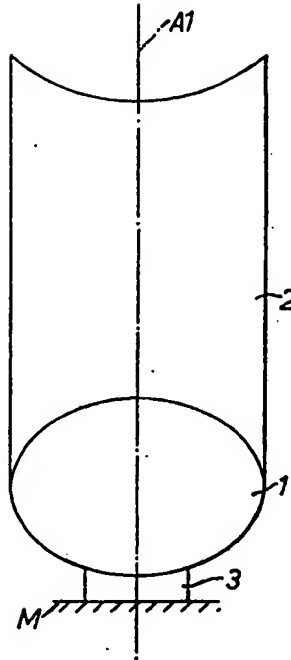


FIG. 2.

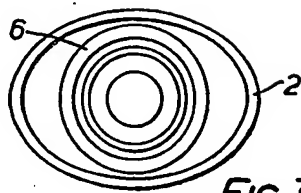


FIG. 3.

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